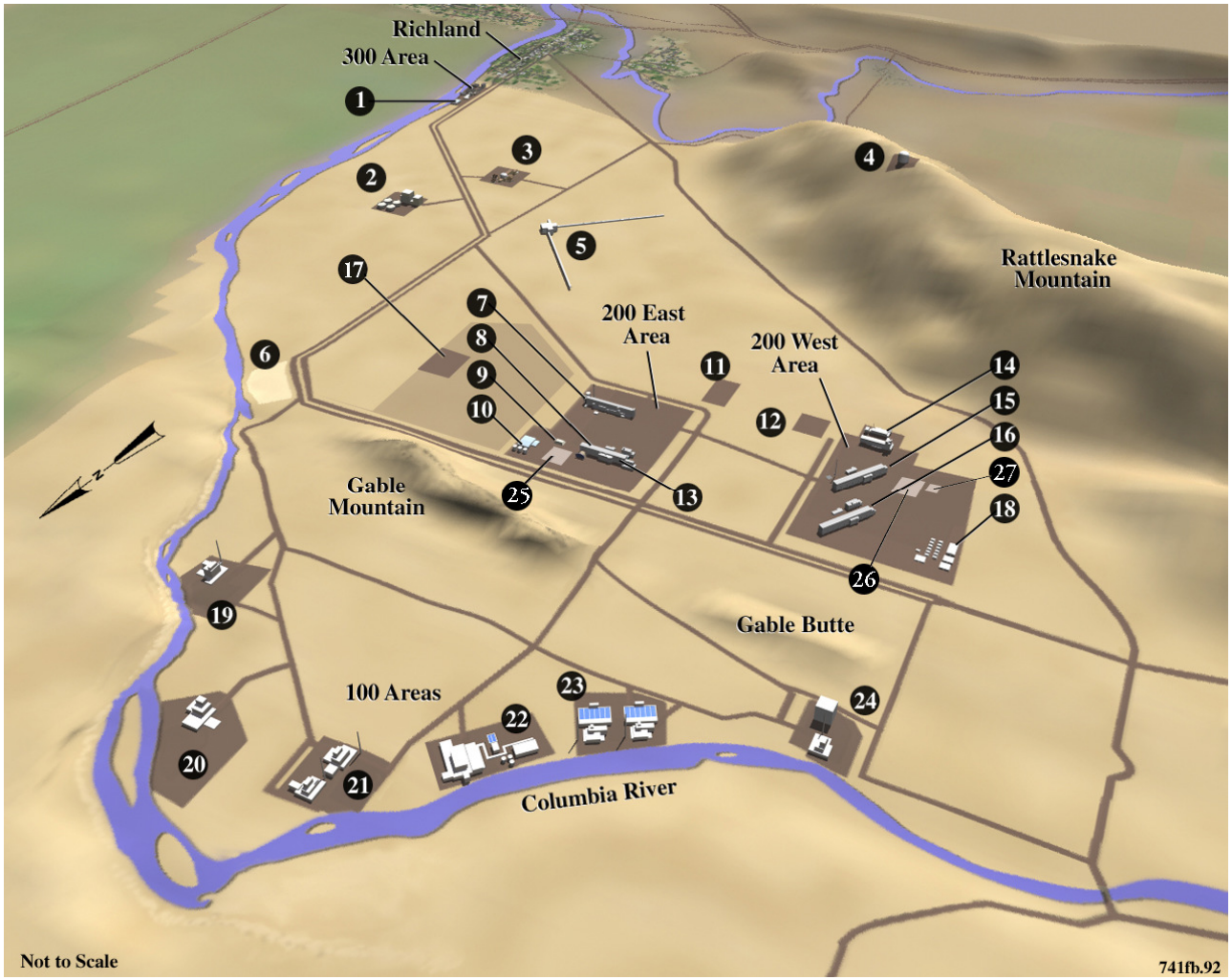
Columbia Center Rotary
June 7, 2007

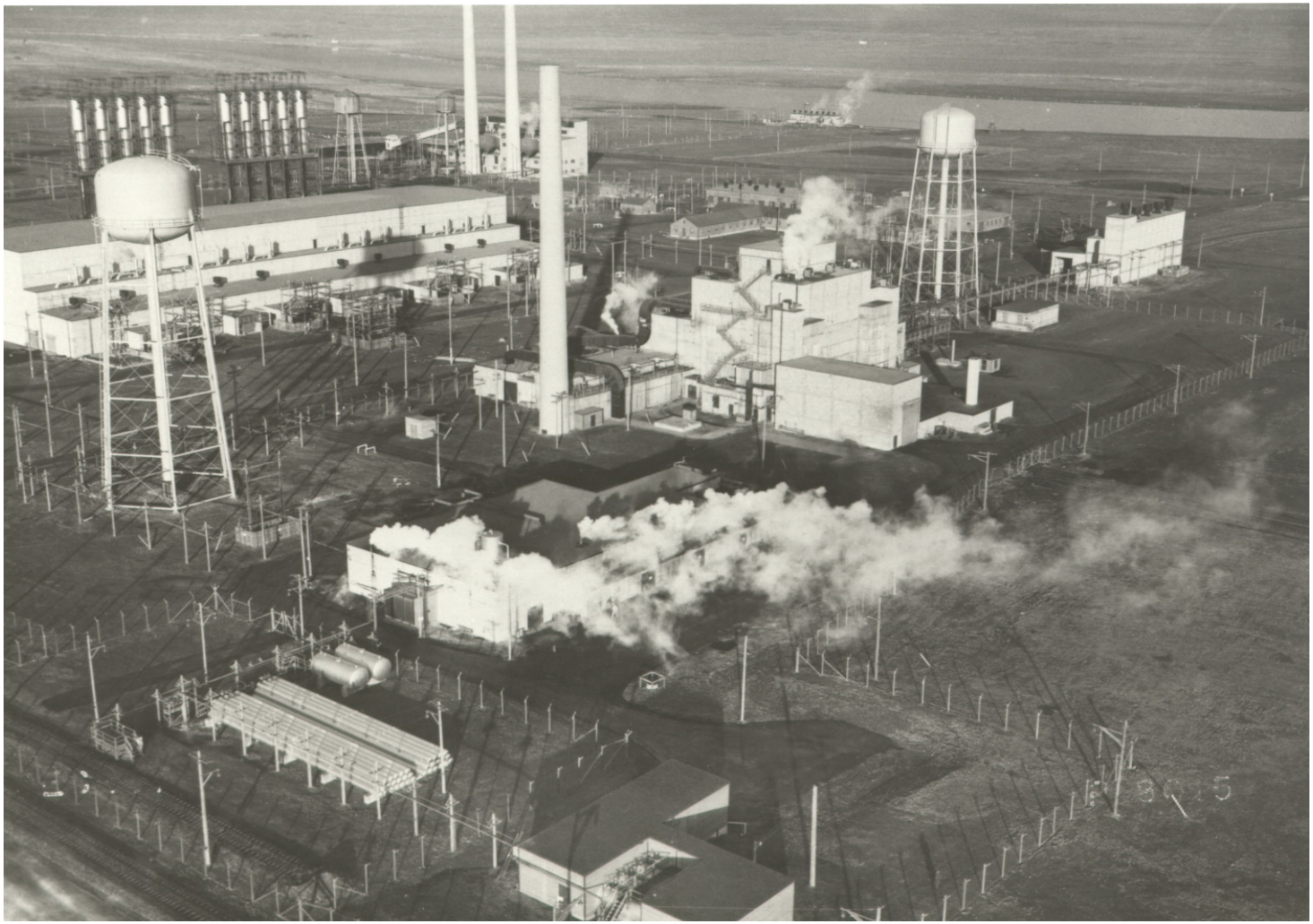
Zack Smith,
Acting Deputy Manager
Office of River Protection

Conceptual Map of the Hanford Site



1. 300 Area Liquid Effluent Treatment Facility
2. Commercial Operating Nuclear Power Plant
3. Fast Flux Test Facility
4. Observatory
5. Laser Interferometer Gravitational Wave Observatory
6. Old Hanford Town Site
7. Plutonium Uranium Extraction Plant
8. B Plant
9. Prototype Engineered Barrier
10. 200 East Area Effluent Treatment Facility
11. U.S. Ecology Commercial Solid Waste Site
12. Environmental Restoration and Storage Facility
13. Waste Encapsulation and Storage Facility
14. REDOX
15. U Plant
16. T Plant
17. Waste Treatment Plant
18. Waste Receiving and Processing Facility
19. F Reactor
20. H Reactor
21. D and DR Reactors
22. N Reactor
23. KE and KW Reactors
24. B and C Reactors
25. C Tank Farm
26. DBVS
27. S Tank Farms

Hanford's B Reactor, as it stood in 1945

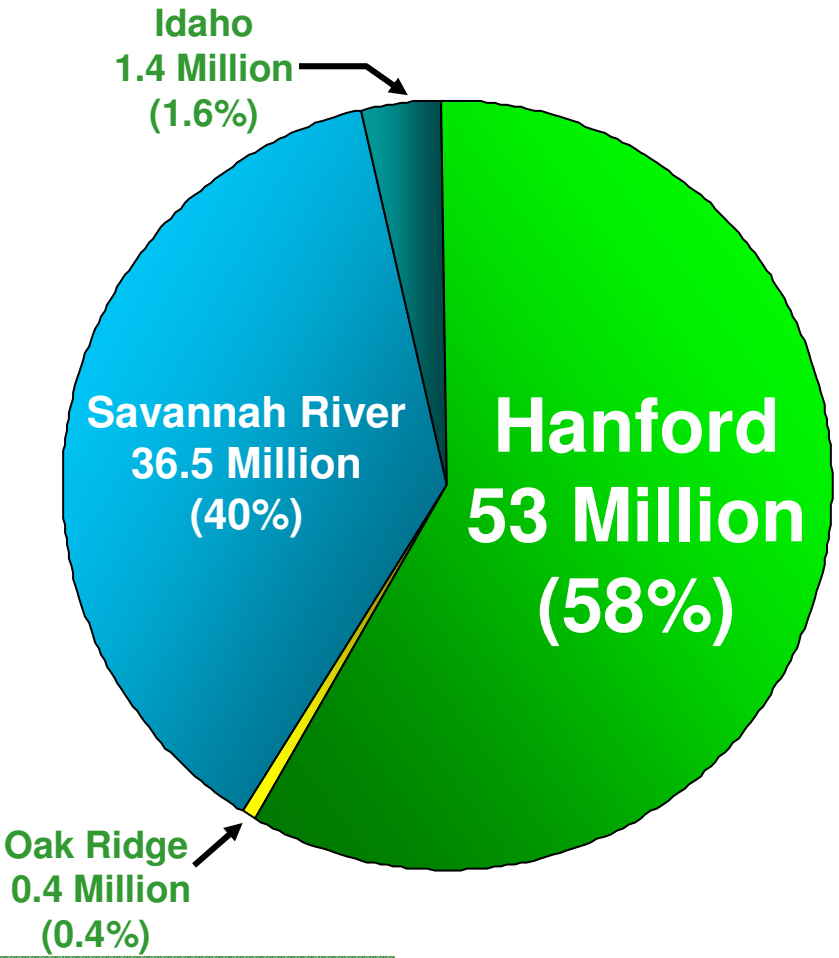


Hanford Tank Waste Cleanup Challenge

Hanford has:

- 63% of DOE tanks; 80% of DOE single-shell tanks
- 58% of DOE total tank waste
- ~194 million curies of radioactivity in tanks (148 million already removed)
- ~190,000 tons of chemicals

Total Number of Gallons in Waste Tanks at DOE Sites:

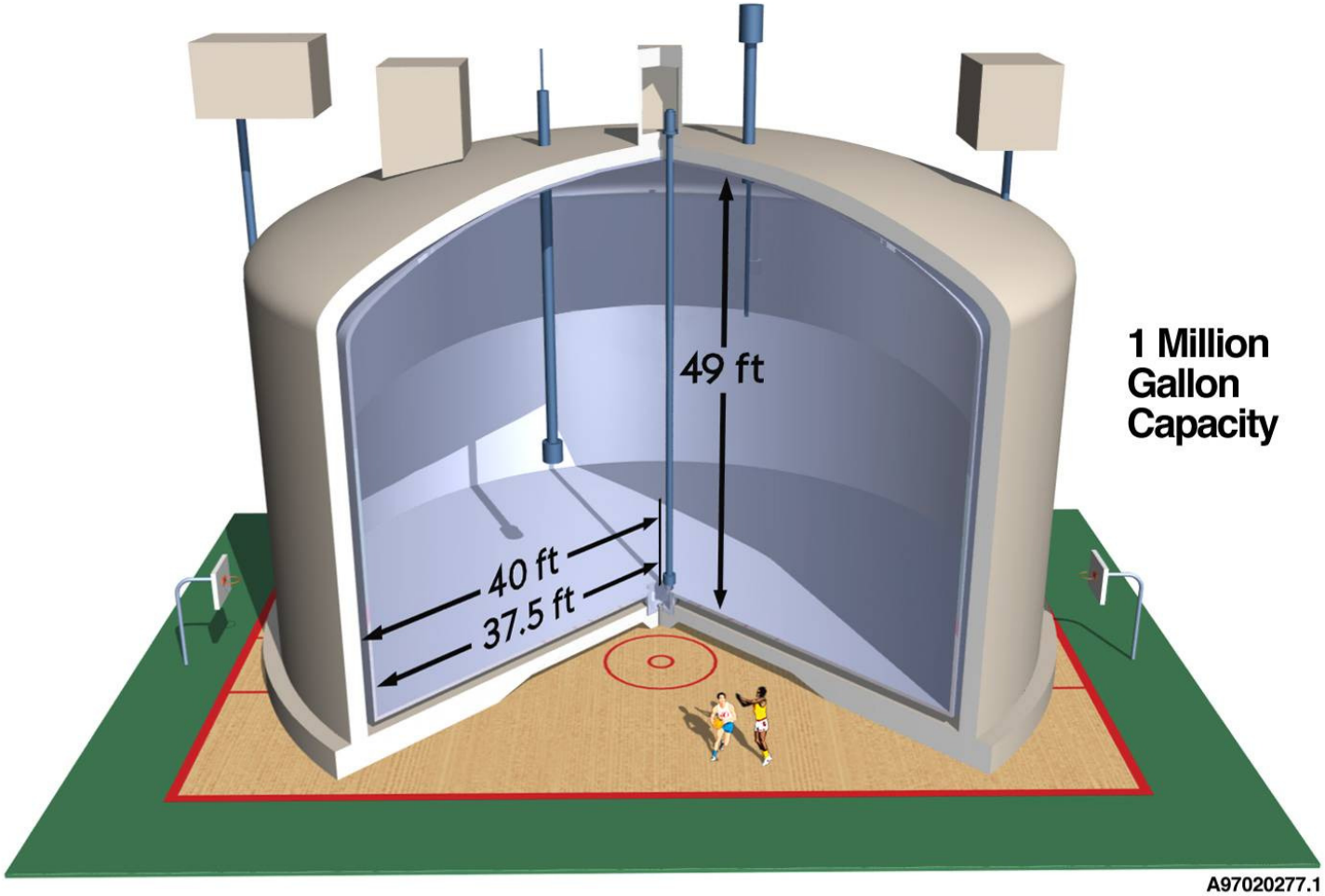


EM Environmental Management

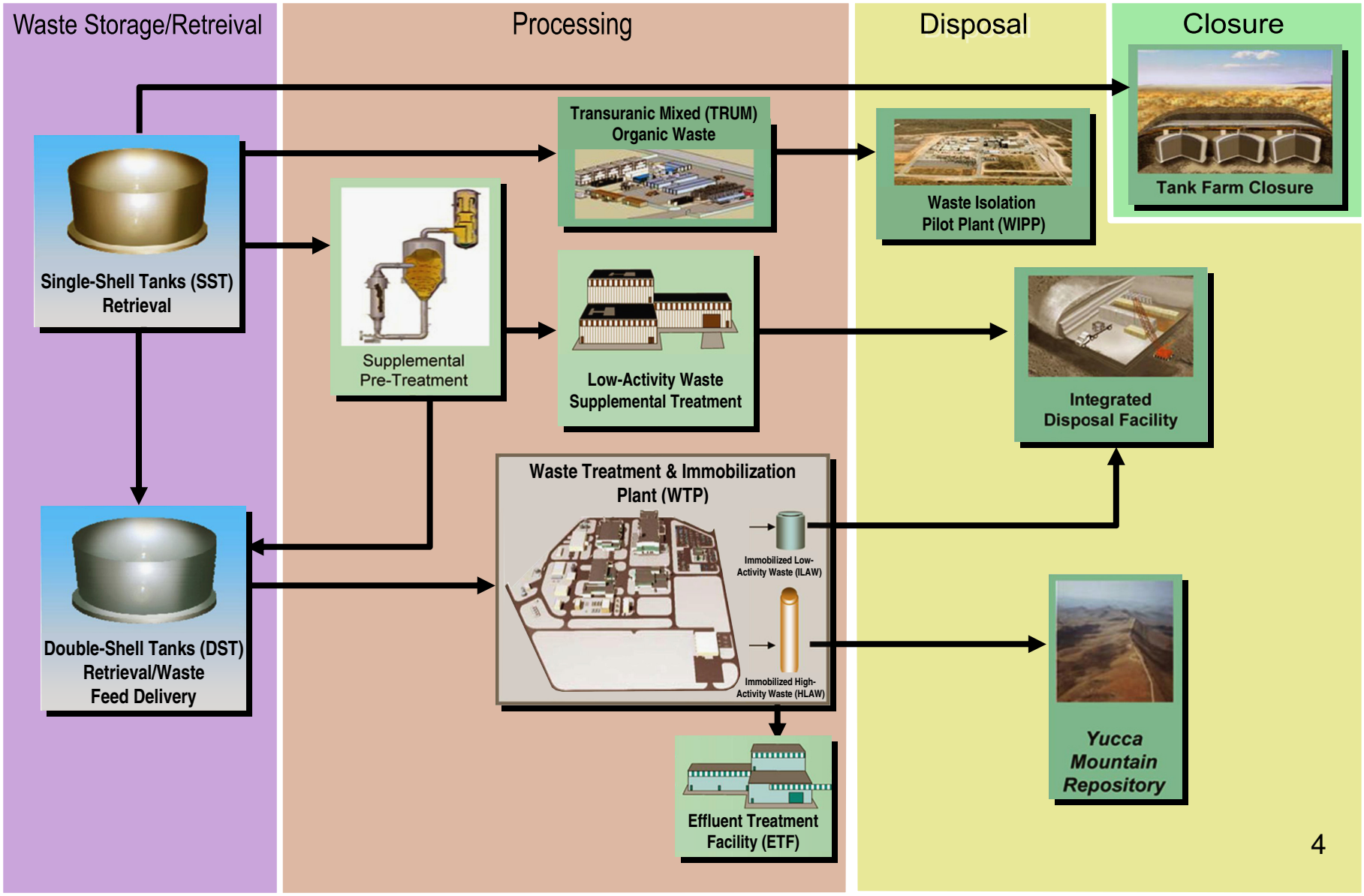
safety ❖ performance ❖ cleanup ❖ closure

Double-Shell Tanks under construction

Double-Shell Tank



RIVER PROTECTION PROJECT MISSION



CH2MHILL Hanford Group, Inc.

Hanford Tank Cleanup Status

Office of River Protection

Retrieval Summary Updated through May 1, 2007

RETRIEVED

S-112
- Capacity of tank: 758 Kgals
- Completion date: March 28, 2007
- Volume removed: 612 Kgals
- Curies removed: 608 K

C-204
- Capacity of tank: 55 Kgals
- Completion date: December 11, 2006
- Volume removed: ~1.3 Kgals
- Curies removed : 440

C-103
- Capacity of tank: 530 Kgals
- Completion date: November 1, 2006
- Volume removed: 69 Kgals
- Curies removed: 2.7 M

C-201
- Capacity of tank: 55 Kgals
- Completion date: March 23, 2006
- Volume removed: 720 gallons
- Curies removed: 560

C-202
- Capacity of tank: 55 Kgals
- Completion date: August 11, 2005
- Volume removed: 1.2 Kgals
- Curies removed: 2.6 K

C-203
- Capacity of tank: 55 Kgals
- Completion date: March 24, 2005
- Volume removed: 2.4 Kgals
- Curies removed: 1.1 K

C-106
- Capacity of tank: 530 Kgals
- Completion date December 31, 2003
- Volume removed: 194 Kgals
- Curies removed: 8.9 M

IN PROGRESS

C-108
- Capacity of tank: 530 Kgals
- Retrieval started: December 20,2006
- Volume of waste to be removed: 66 Kgals
- Volume of waste removed to date: 58 Kgals
- Curies removed to date: 148 K of 167 K
- Technology used: Modified sluicing

S-102
- Capacity of tank: 758 Kgals
- Retrieval started: December 17, 2004
- Volume of waste to be removed: 464 Kgals
- Volume of waste removed to date: 423 Kgals
- Curies removed to date: 555 K of 704 K
- Technology used: Saltcake Dissolution, High Pressure Mixer and Modified sluicing

NEXT IN LINE

C-109
- Capacity of tank: 530 Kgals
- Volume of waste to be removed: 63 Kgals
- Curies to be removed: ~ 844 K
- When retrieval to begin: July 2007
- Technology to be used: Modified sluicing

C-104
- Capacity of tank: 530 Kgals
- Volume of waste to be removed: 259 Kgals
- Curies to be removed: 1.2 M
- When retrieval to begin: FY 2008
- Technology to be used: Modified sluicing

C-110
- Capacity of tank: 530 Kgals
- Volume of waste to be removed: 178 Kgals
- Curies to be removed: 33 K
- When retrieval to begin: FY 2008
- Technology to be used: Modified sluicing

Acid Dissolution | Modified Sluicing | Vacuum Retrieval | Saltcake Dissolution

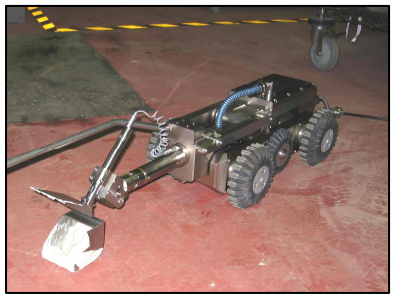
Remote Water Lance (Salt Mantis)

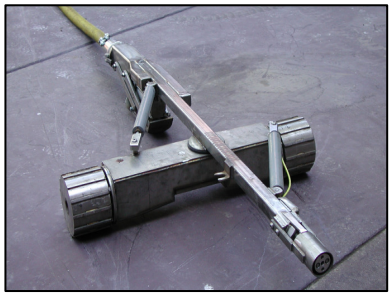
High Pressure Mixer (Rotary Viper)

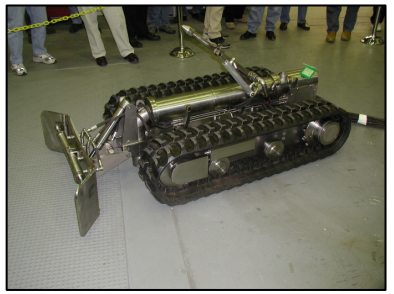
CHG0511-09 5-8-07

New Innovative Tank Waste Retrieval Technologies

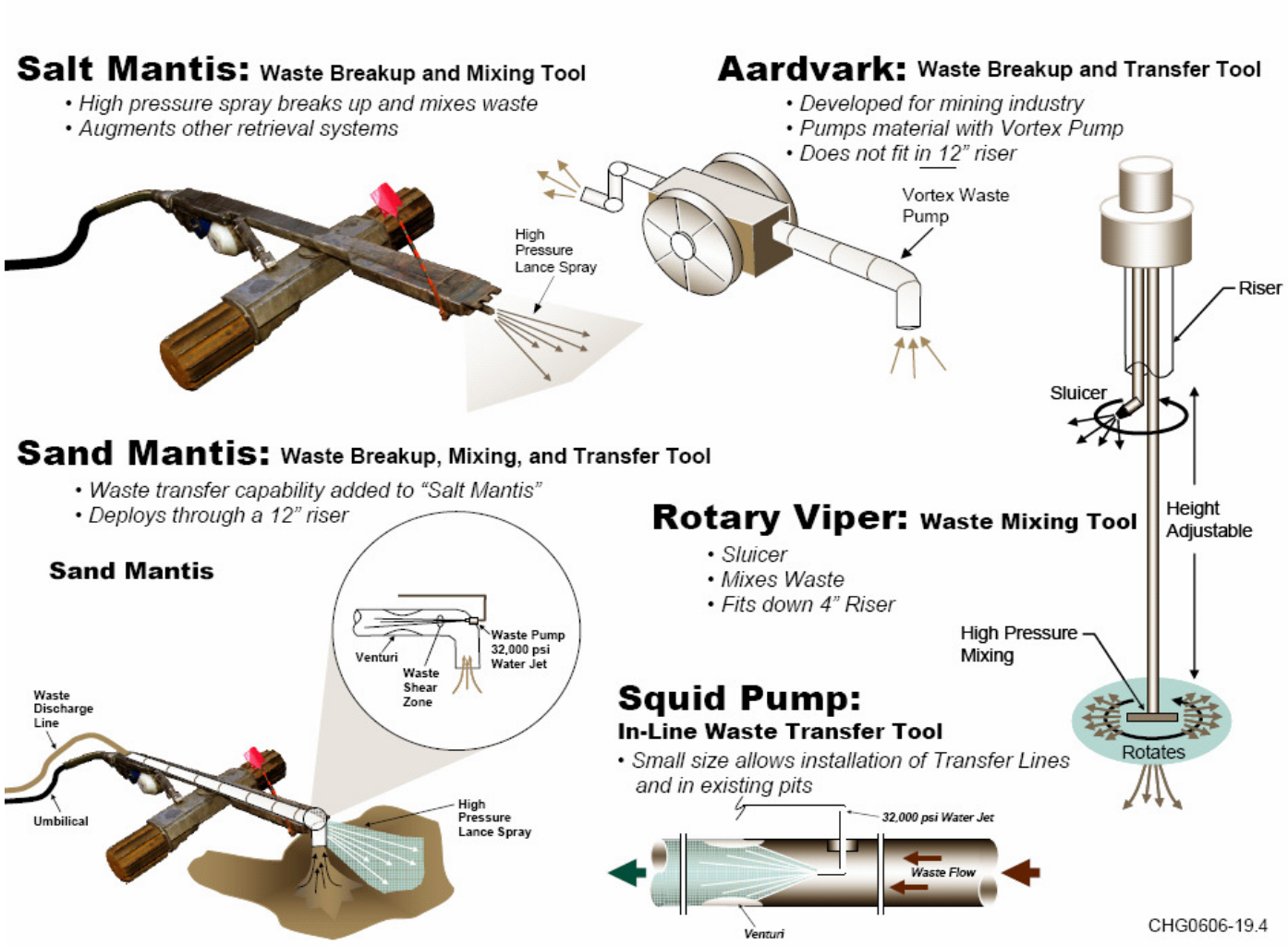
- Technologies based on waste characteristics and each tank's physical condition
- Demonstrating achievability of 99% waste retrieval
- Working with State of Washington and Nuclear Regulatory Commission on retrieval effectiveness
- Managing available Double-Shell tank space



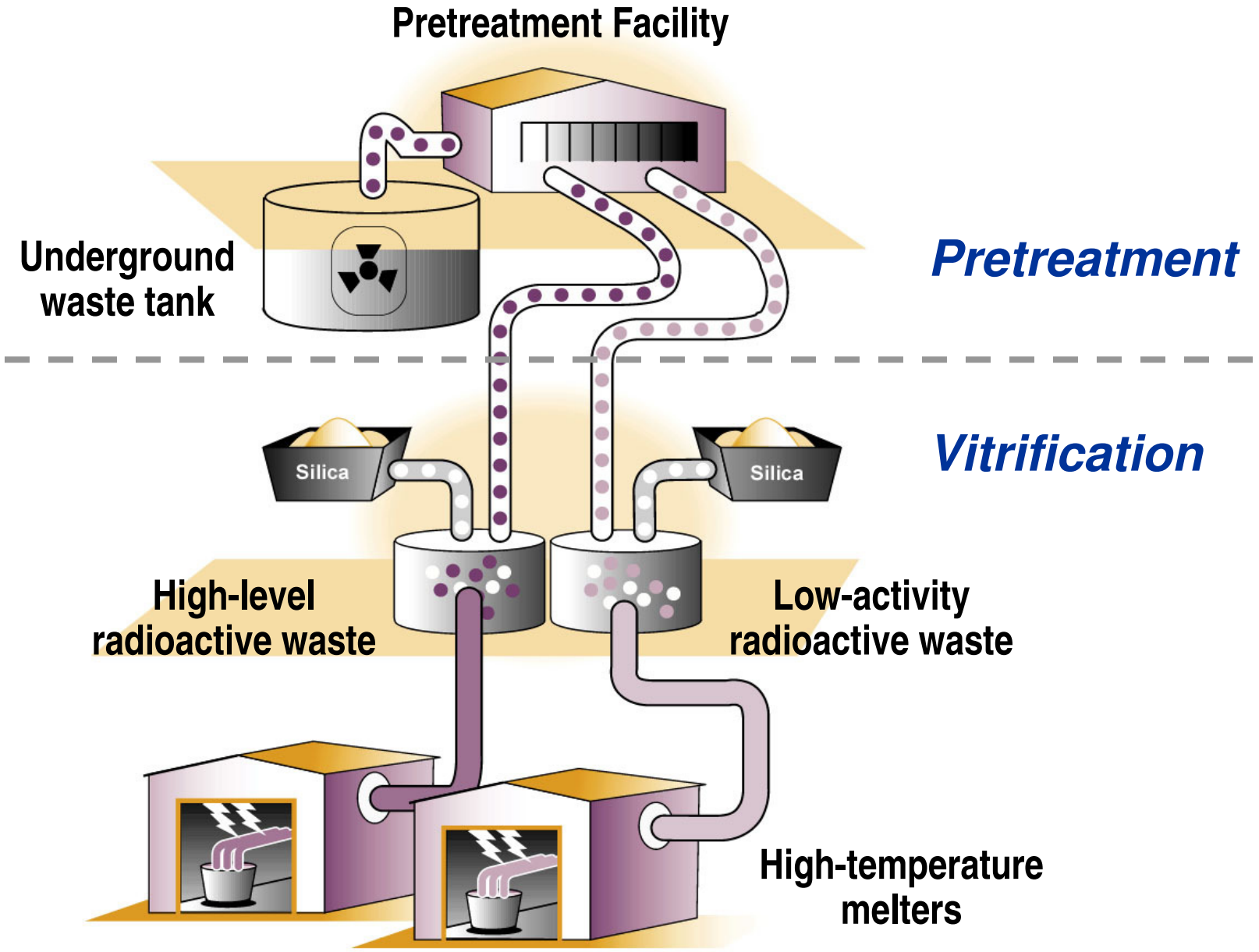




New Innovative Tank Waste Retrieval Technologies



Waste Treatment Process



How is the Vitrified Waste Stored?

High Level Waste Canisters

- 2’ X 14.5’
- 6,600 pounds of glass
- Temporarily stored in Hanford’s Canister Storage Building until national repository built

Low Activity Waste Containers

- 4’ X 7.5’
- 13,000 pounds of glass
- Stored at Hanford’s Central Plateau

Aerial view of the Waste Treatment Plant (WTP) site

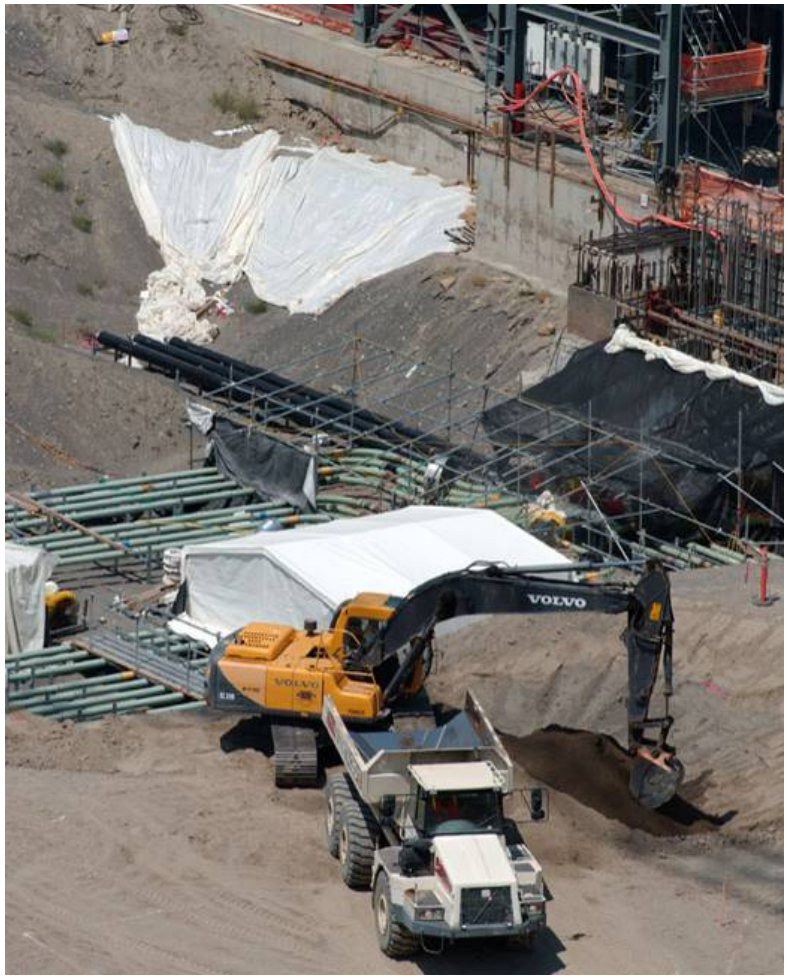
- The WTP site is located on 63 acres

- To date the project has
  - Poured 171,800 cubic yards of concrete
  - Installed 33,800 tons of rebar
  - Installed 41 miles of piping
  - Installed 8,750 tons of structural steel

The Waste Treatment Plant

Overall Project Percent Complete is 37%

Excavation on Pretreatment Facility



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